SHOP LC

User Experience & Front End Performance Audit

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Attachments and Extras:

GTMetrix Performance Audit (PDF)

Lighthouse Performance Audits (PDF)

Category Landing Page Code Sample (HTML/CSS/JavaScript)

Introduction

The goal of this audit was to conduct a high-level review of the Shop LC
e-commerce web site from a design and performance perspective and
offer meaningful recommendations for improvement.

Areas of focus included:

- Overall design ("look and feel")
- Primary navigation and information architecture
- Site speed and reliability, particularly front end performance

The results of this audit indicate there are many areas of improvement for
the Shop LC web site that could have a meaningful impact on customer
satisfaction and revenue.

The observations and recommendations in this report, which are provided
based on UX best practices and competitive analysis, are not meant to
be exhaustive and should be used to inform a broader user testing and
implementation strategy. Results are not guaranteed and any site
modifications based on these recommendations should be subjected to
standard UX evaluation methods (A/B testing, usability studies, etc.) prior
to implementation.

Overall Design
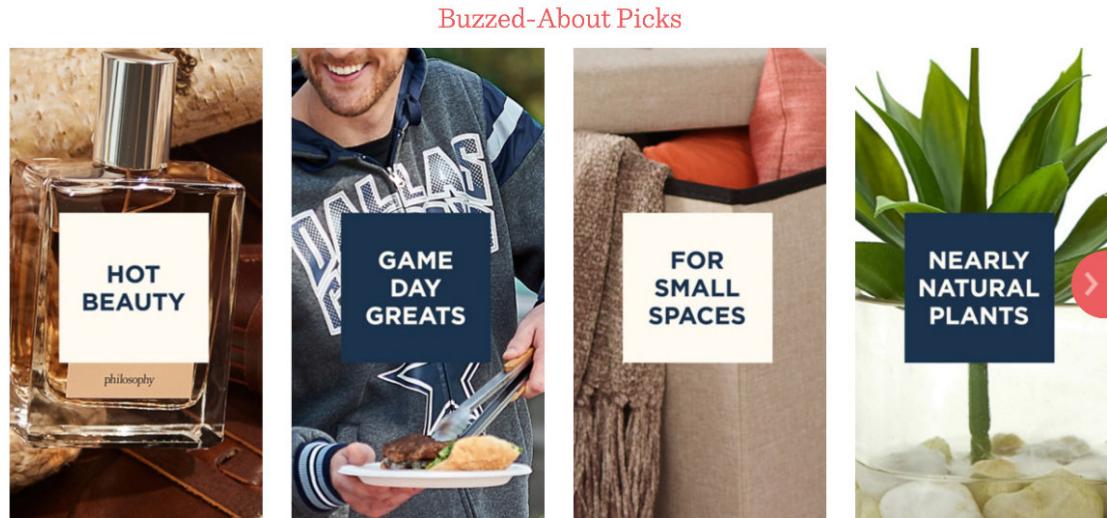
Summary

The Shop LC web site has a busy appearance that feels somewhat unfocused. Compared to competitors, the overall design feels dated and generic, lacking a uniquely identifiable visual identity. Minimal whitespace combined with a reliance upon borders to separate elements creates a cluttered appearance.

General Observations

The trend in e-commerce web site visual design has moved toward relatively flat, clean themes; this has the dual benefit of shifting the user's focus to product and promotional imagery while improving front end performance through less code and fewer assets.

With product imagery and promotions providing the bulk of visual appeal in modern designs, it's important for them to be consistent and aesthetically pleasing. QVC makes excellent use of simple, but attractive promotions to add visual appeal and group categories that otherwise have nothing in common. While Shop LC home page promotions provide some color and typographical variety, they can be inconsistent with one another and feel disjointed.

QVC uses consistent visual design with lifestyle photos as a backdrop to group unrelated items in an appealing way. Compare to Shop LC below; while these items share some typographical elements and buttons, they don't feel as cohesive and aren't as visually appealing.

The site header could make more efficient use of available space. The logo is small and blurry and the wishlist and cart icons take up extra space with their unnecessary padding and borders. The information and links at the very top of the page (phone number, Track Order, and Log In / Sign Up) are oddly aligned and have an unusual amount of empty space below them.

Recommendations

1. Reorganize the site header to make better use of available space and refine the visual design; the logo could be larger and clearer, and the icons can stand alone without borders.
2. Select a few bold colors and a maximum of two typefaces, and use them consistently across pages and promotions to establish a clear visual identity.
3. Use whitespace to establish boundaries between products and other content, which will provide a cleaner look than borders and boxes.

The Shop LC site header is similar to the QVC header in terms of content, but it's not laid out as cleanly. HSN and TSC focus more on product categories, while still leaving space for deals and specials.

Navigation and Information Architecture
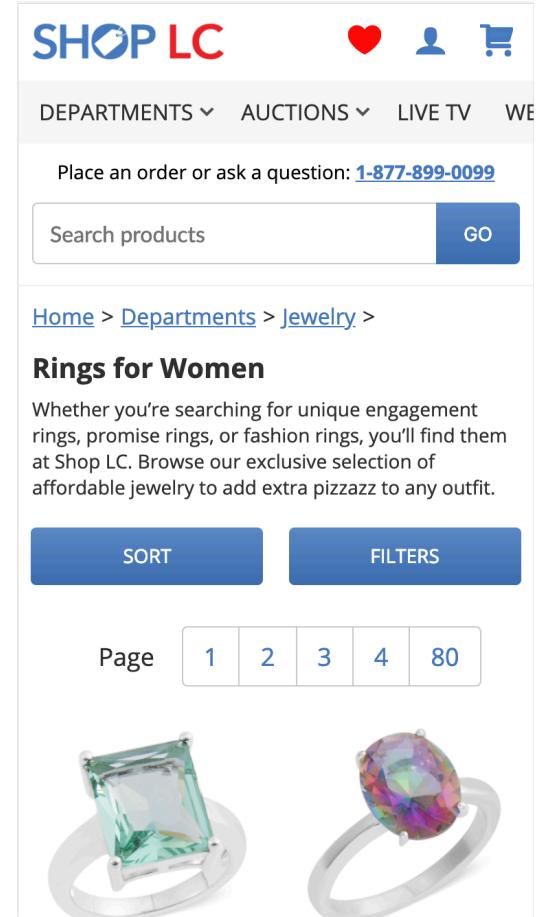
Summary

The site's top-level category navigation is generally well organized, but tertiary menus can be too granular in some cases. Filter and sort functionality on category and search results pages provides options that don't always make sense within certain contexts. Users not familiar with the Shop LC brand—specifically the TV channel—may find the references to live TV confusing.

General Observations

A site's primary navigation provides some of the first clues as to what products and services a company provides. Visitors who are familiar with the Shop LC brand and watch the TV channel probably already have a good idea what they can expect to find on the web site, but new visitors who are unfamiliar with the brand may find the top-level navigation confusing. They'll see an online store, online auctions, and something to do with live TV. It's difficult to pin down exactly what Shop LC is based on this collection.
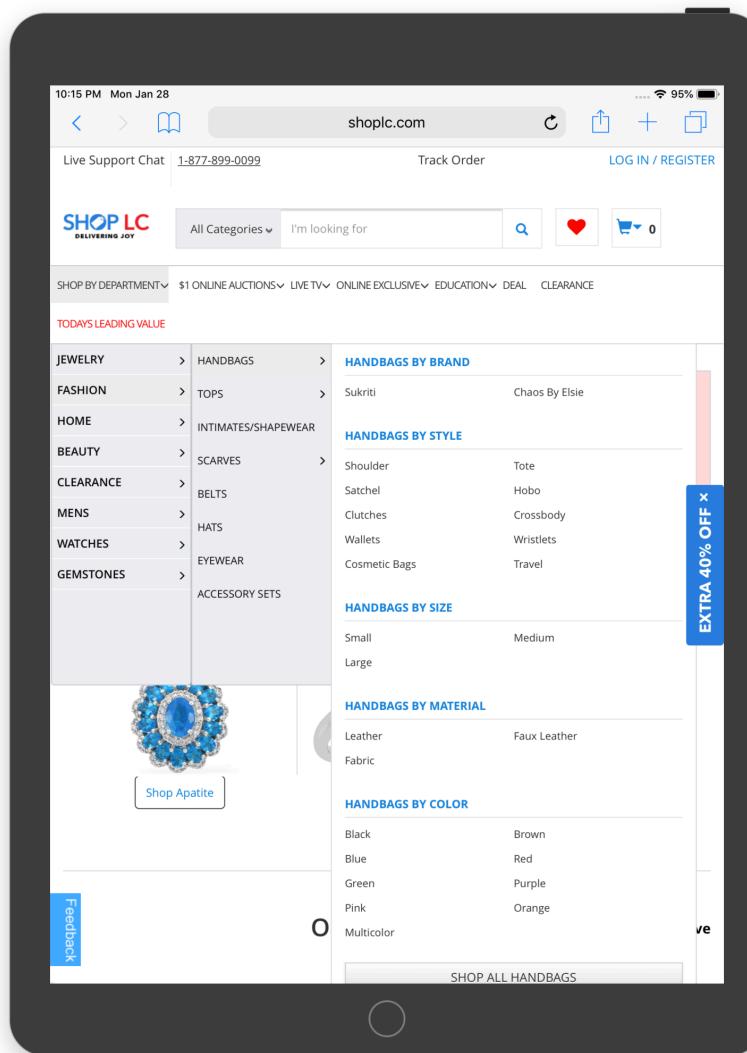
On mobile devices, the primary navigation is hidden behind a menu icon ("hamburger"), which is a common pattern due to its space-saving properties, but it can encourage fewer interactions. Consider exposing the primary navigation in a scrollable menu instead to increase visibility

"Hamburger" menus (left), while a common pattern, discourage discoverability. Consider exposing the primary navigation to increase engagement and exploration, as presented in the category page demo (right).

and engagement. (The category page code sample attached to this audit, also pictured here, employs this technique.)

The tertiary category menus in the primary navigation contain extremely specific groups that are probably best left to the filter menu on the parent category page. For example, the handbags menu contains so many options that it doesn't even fit on tall devices like the iPad.

The handbags category menu is so large that it's not fully visible on a large iPad without scrolling. These options should probably be filters on the category page instead.

Category Landing and Search Results

Despite the similar purpose of category landing pages and search results pages—displaying a list of products that match a given set of criteria—there are visual and navigation inconsistencies between these two views on the Shop LC web site. Examples include:

- Pagination, filter, and sort options are visually and functionally inconsistent between these two views.
- Search results have a grid/column view option, but category pages don't.
- Product details and pricing are displayed differently.

These two views should look basically the same. Also, being able to sort products by name is only helpful if product naming conventions are consistent. Given the large number of product results and varying names, sort by name should probably be removed.

Shopping Cart and Checkout

The most confusing aspect of the Shop LC checkout process is the dual cart system. Having separate shopping carts for different items is unusual, though understandable given the differences between the shopping paths.

The category landing page (top) and search results (bottom) have visual and functional inconsistencies that could be confusing to users.

Other observations:

- The "Continue to Checkout" button within the cart is quite far down the page—several screen heights on mobile devices—leaving users to hunt for the next step.
- Having the shipping method in the cart complicates this step and duplicates the shipping menu on the next step.

Recommendations

1. Reduce or remove tertiary category filters in the primary navigation since they're largely redundant.
2. Consider removing category selection from global search if it doesn't improve the quality of search results.
3. Use the same look and feel and functionality for pagination, sort, and filter options across both category views and search results. Add grid/column switch to search. Remove the option to sort by name.
4. Assuming there are no severe technical obstacles to such an integration, integrate the standard shopping and online auctions into a single shopping cart.
5. Improve visibility of the checkout button by moving the order summary higher on the page or adding a second checkout button at the top of the page.
6. Simplify the cart by placing shipping options with the shipping address on the next step.

The checkout button, which should be prominent and easy to find, is placed at the bottom of the layout, forcing users to hunt for it in order to begin the checkout process.
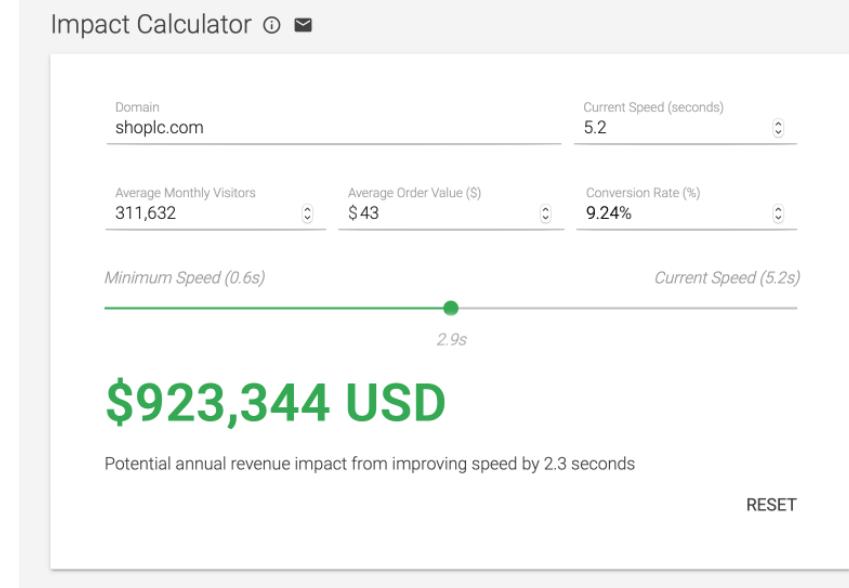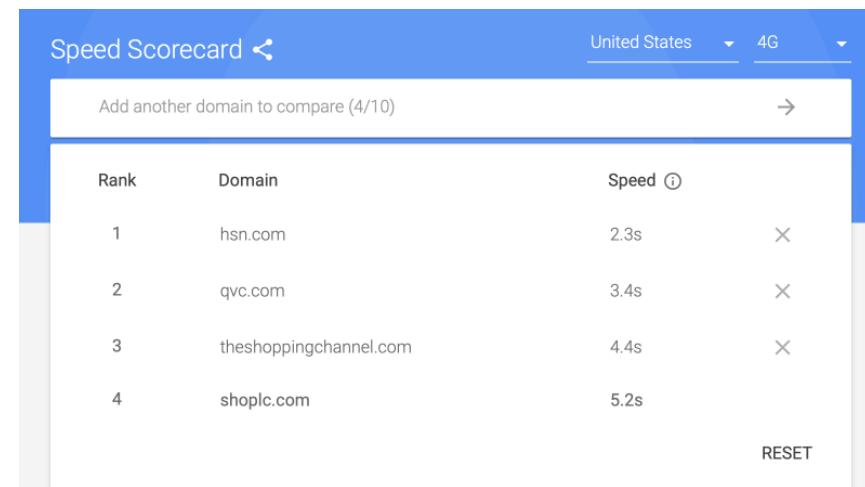
Front End Performance

Summary

Site performance is a critical aspect of good user experience and has a demonstrable impact on revenue. The simple design of the Shop LC web site should lend itself to great performance, but the unusually high number of HTTP requests, heavy reliance upon JavaScript, and unnecessarily complex DOM structure result in slow page rendering and buggy behavior, especially on mobile.

General Observations

- The Shop LC front end has an extreme number of JavaScript requests, severely impacting site performance. Rendering time and scrolling performance on mobile devices is particularly poor.
- Portions of pages, such as the primary nav, are presented in the source as large JSON chunks and then rendered on the client using JavaScript, which is considerably slower than server-side rendering.
- The site appears to use some sort of framework, such as Bootstrap, for page layout. Frameworks make it easy to build out a responsive web site quickly, but often result in bloated, convoluted markup and larger CSS files. The Shop LC source code has many thousands of DOM nodes, which slows page rendering and JavaScript execution.

Google provides a calculator that estimates the financial benefits of improving site performance on mobile devices based on existing revenue.
https://www.thinkwithgoogle.com/feature/mobile/
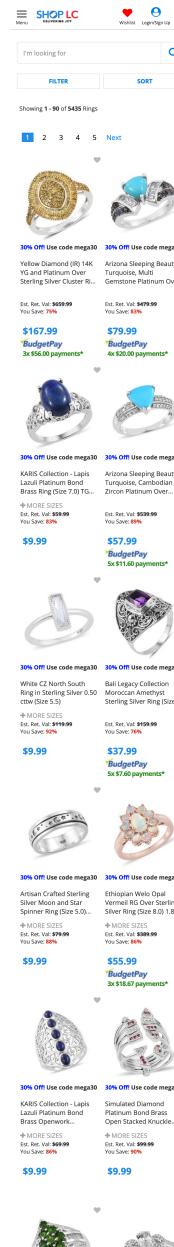
- Certain user actions, such as changing the shipping method in checkout, trigger full page loads rather than smaller, faster AJAX requests.
- On product-heavy pages, such as the category landing page, all images are loaded simultaneously. On a mobile device, this results in images many screen heights from the top of the page loading even if the user never sees them, consuming valuable cell phone plan data and slowing performance.

Included with this audit is a code demo of a Shop LC category landing page built from scratch. It uses clean HTML, Sass/CSS, and efficient, custom JavaScript. You can view this demo at the following URL:

http://jaysylvester.com/shoplc/web/category.html

Developers can view the source code for the demo on GitHub:

https://github.com/jaysylvester/jaysylvester.com/tree/master/web/shoplc

The category landing page loads 90 product images immediately upon page load, placing massive stress on mobile devices in the form of increased data usage, download time, and rendering time. Most users will only see a fraction of these images, especially if they interact with the filter and sort menus before browsing the products themselves.

Recommendations
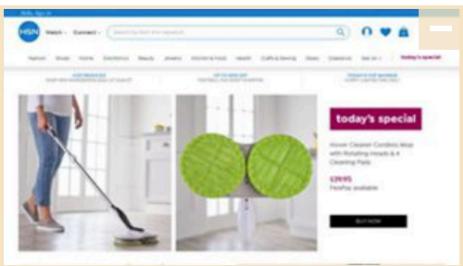
1. Clean up the HTML source and reduce the number of DOM elements; the category page rebuild included with this report has a fraction of the nodes contained in the live site while presenting basically the same content and layout.
2. Reduce the site's dependency on JavaScript, especially as it relates to building and rendering HTML in the browser. Rendering HTML on the server is faster.
3. Bundle any remaining scripts into fewer JavaScript files, and therefore fewer requests.
4. Implement lazy loading for product images so files are only requested after images are within view.

	https://www.qvc.com/	https://evine.com/	https://www.hsn.com/	https://shoplc.com/
	Mon, Mar 25, 2019 11:05 PM -0400	Mon, Mar 25, 2019 11:00 PM -0400	Mon, Mar 25, 2019 10:59 PM -0400	Mon, Mar 25, 2019 10:56 PM -0400
	Dallas, USA	Dallas, USA	Dallas, USA	Dallas, USA
	Chrome (Desktop) 62.0.3202.94	Chrome (Desktop) 62.0.3202.94	Chrome (Desktop) 62.0.3202.94	Chrome (Desktop) 62.0.3202.94
PageSpeed Grade	F (38%)	E (54%) +16%	F (34%) –4%	D (67%) +29%
YSlow Grade	F (42%)	E (58%) +16%	F (46%) +4%	C (71%) +29%
Fully Loaded time	6.4s	7.9s +1.5s	8.5s +2.1s	19.7s +13.4s
Total page size	3.59MB	2.60MB –0.99MB	4.68MB +1.09MB	3.31MB –288KB
Total # of requests	248	134 –114	223 –25	208 –40
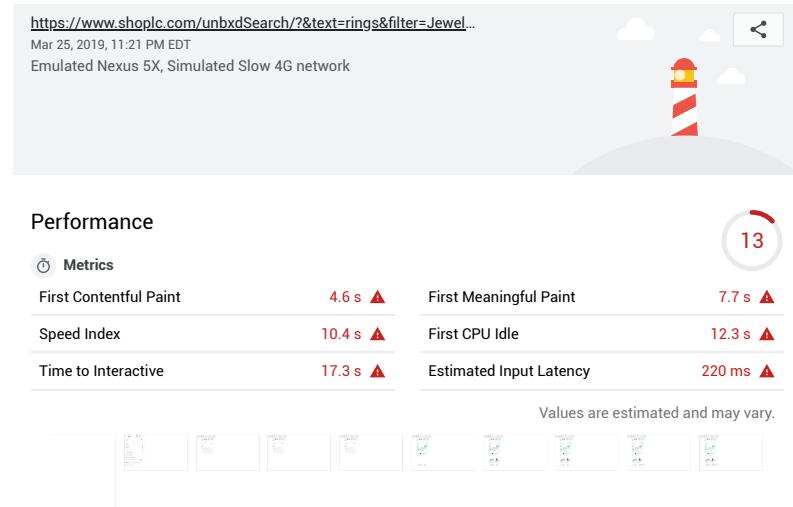
The Shop LC home page has the best overall score in the above performance comparison, but still has much room for improvement. A detailed GTmetrix report of the Shop LC site is included with this audit.

Performance audits of the current Shop LC category landing page (left) and the code demo included with this audit (right).

The performance improvements of the demo are due primarily to reduced DOM complexity, minimal JavaScript, and lazy loading of images.

The complete performance results have been included with this document.

https://www.shoplc.com/unbxdSearch/?&text=rings&filter=Jewel...
Mar 25, 2019, 11:21 PM EDT
Emulated Nexus 5X, Simulated Slow 4G network

Performance   13

⏱ **Metrics**

First Contentful Paint	4.6 s ⚠	First Meaningful Paint	7.7 s ⚠
Speed Index	10.4 s ⚠	First CPU Idle	12.3 s ⚠
Time to Interactive	17.3 s ⚠	Estimated Input Latency	220 ms ⚠

Values are estimated and may vary.
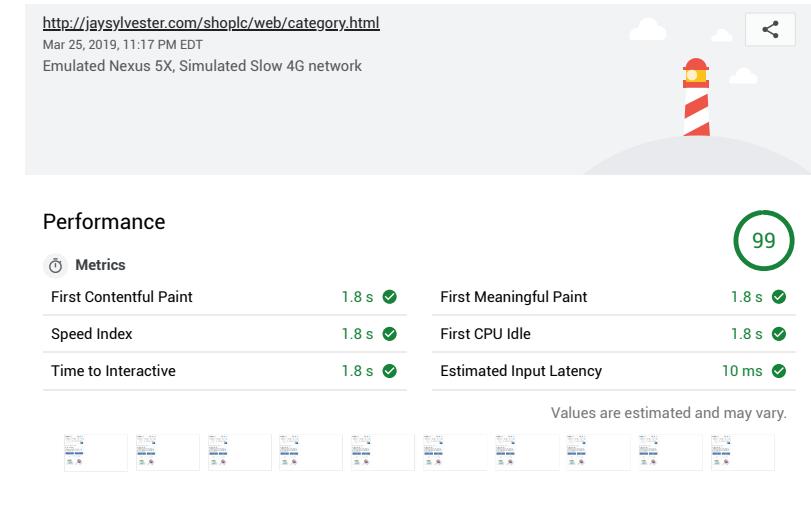
🔲 **Opportunities**

These optimizations can speed up your page load.

Opportunity	Estimated Savings
1 Eliminate render-blocking resources	3.65 s ∧

Resources are blocking the first paint of your page. Consider delivering critical JS/CSS inline and deferring all non-critical JS/styles. Learn more.

URL	Size (KB)	Potential Savings (ms)
/amp/amp.min.js?amp-defaults=%2Fsamples%2Fsamples.xml (www.shoplc.com)	70 KB	1,530 ms
...wro/commonLibrary.css?version=3.0.6.3&yocs=o_&yoloc=us (cdn-us-cf2.yottaa.net)	66 KB	1,810 ms
...wro/plpPdpCombinedJS.css?version=3.0.6.3&yocs=o_&yoloc=us (cdn-us-cf2.yottaa.net)	34 KB	300 ms
...v~4b.4a8/ruxitagen....js?yocs=o_&yoloc=us (cdn-us-cf2.yottaa.net)	47 KB	600 ms

http://jaysylvester.com/shoplc/web/category.html
Mar 25, 2019, 11:17 PM EDT
Emulated Nexus 5X, Simulated Slow 4G network

Performance   99

⏱ **Metrics**

First Contentful Paint	1.8 s ✓	First Meaningful Paint	1.8 s ✓
Speed Index	1.8 s ✓	First CPU Idle	1.8 s ✓
Time to Interactive	1.8 s ✓	Estimated Input Latency	10 ms ✓

Values are estimated and may vary.

🔲 **Opportunities**

These optimizations can speed up your page load.

Opportunity	Estimated Savings
1 Serve images in next-gen formats	9 s ∧

Image formats like JPEG 2000, JPEG XR, and WebP often provide better compression than PNG or JPEG, which means faster downloads and less data consumption. Learn more.

URL	Size (KB)	Potential Savings (KB)
...products/ring-5.jpg (jaysylvester.com)	368 KB	323 KB
...products/ring-3.jpg (jaysylvester.com)	354 KB	313 KB
...products/ring-6.jpg (jaysylvester.com)	345 KB	309 KB
...products/ring-1.jpg (jaysylvester.com)	306 KB	277 KB
...products/ring-4.jpg (jaysylvester.com)	288 KB	254 KB

Other Observations & Recommendations

The home page On Air Now feature frequently displays items that are no longer in stock. If these items can't be added to the wishlist for purchase later, seeing them likely only frustrates users, so consider removing OOS items.

The Deal of the Day, despite being only a single product, is displayed within the category view—complete with irrelevant filters. If it's only a single product, consider linking directly to the product detail page instead.

TRENDING NOW

Orissa Rhodolite Garnet Platinum Over Sterling Silver Tennis Bracelet (7.25 In) TGW 16.82 cts.	SUKRITI Blue Roe Deer Hand Painted Genuine Leather Shoulder Bag (15x4x10 in)	Orissa Rhodolite Garnet Platinum Over Sterling Silver Ring (Size 5.0) TGW 9.00 cts.	SUKRITI - Green Chirpy Parrots Hand Painted Genuine Leather Satchel Bag (13.5x4x10.5 in)	My Magic Mud - Activated Charcoal Toothpaste - Cinammon	SUKRITI Pink Flower and Fluttering Butterfly Shoulder Bag in Leather (16x6.5x9 in)
SHOP LC PRICE:$87.99	SHOP LC PRICE:$99.99	SHOP LC PRICE:$69.99	SHOP LC PRICE:$129.99	SHOP LC PRICE:$9.99	SHOP LC PRICE:$129.99

Products in the Trending Now carousel (above) featured on the Shop LC home page have a light grey border and redundant "SHOP LC PRICE" label that add visual noise. Minor alterations, such as replacing the border with a separator, removing the price label, and tweaking margins/padding (below) reduce clutter and provide a cleaner design.

TRENDING NOW

Orissa Rhodolite Garnet Platinum Over Sterling Silver Tennis Bracelet (7.25 In) TGW 16.82 cts.	SUKRITI Blue Roe Deer Hand Painted Genuine Leather Shoulder Bag (15x4x10 in)	Orissa Rhodolite Garnet Platinum Over Sterling Silver Ring (Size 5.0) TGW 9.00 cts.	SUKRITI - Green Chirpy Parrots Hand Painted Genuine Leather Satchel Bag (13.5x4x10.5 in)	My Magic Mud - Activated Charcoal Toothpaste - Cinammon	SUKRITI Pink Flower and Fluttering Butterfly Shoulder Bag in Leather (16x6.5x9 in)
$87.99	$99.99	$69.99	$129.99	$9.99	$129.99